

Baranoff and an another species of *Sturmia* from the larvae and pupae of the butterfly *D. chrysippus* (L.) which feeds on *Calotropis gigantea* Br. (Mukerji and Behura. *Journ., Bomb. Nat. Hist. Soc.*, in press).

The following references may also be added to the list given by Sevastopulo (1933):—

Larvae of this butterfly feeding on *C. gigantea* Br., are much attacked by ichneumons (T. R. Bell. 1909. *Journ., Bomb. Nat. Hist. Soc.* 19(1): 52).

The adult butterflies are attacked by drongos (*Dicrurus*) (H. L. Andrews, 1910, *Journ., Bomb. Nat. Hist. Soc.* 20(3): 850), by mantis (H. D. Peile, 1910, *Journ., Bomb. Nat. Hist. Soc.* 20(3): 873 and also by the lizard *Calotes* which devours both palatable and distasteful butterflies (H. Jouguet, 1927, *Journ., Bomb. Nat. Hist. Soc.* 33 (2): 453).

ENTOMOLOGICAL LABORATORY,

DEPARTMENT OF ZOOLOGY,

DURGADAS MUKERJI,

UNIVERSITY COLLEGE OF SCIENCE, BASANTA KUMAR BEHURA.

CALCUTTA,

4th February 1947.

28.—NOTE ON THE OCCURRENCE OF *BIPALIUM* IN JUNAGADH (KATHIAWAR)

Bipalium belongs to the Phylum Platyhelminthes, to the class Turbellaria. Unlike parasitic Platyhelminthes, free living forms have not received considerable attention at the hands of zoologists in India. The first described land planarian of India in the year 1899 was *Bipalium smithi* (v.Graff). The land planarians from the Abor country collected by Mr. Kemp are recorded by Whitehouse (1 and 2) and from the Andamans by Kaburaki (3). In all 13 species of *Bipalium* are recorded from the Abor country on the Indo-Tibetan border, the Eastern and Western Himalayas, North Bengal, Assam, Nilgiri, Coimbatore, Travancore, Cochin and the Andamans. They were found at altitudes varying from 300 to 3000 feet above sea level.

A single solitary specimen of this animal was first observed at Motibag in the month of July 1938; and again at Datar Manzil in the monsoon of 1939. Thereafter in the month of July of 1944 several individuals of various sizes were seen crawling under or on stones and even on the tree trunks of the Girnar Hills. In order to kill these animals in extended condition they were dipped in water to which at intervals a drop of 5% formalin was added till they become motionless. They are then preserved in 50% Glycerine alcohol.

From the external features these animals comply with the typical *Bipalium* outline with semicircular head lobes. The trunk

tapers gradually towards the regions of the neck and the tail. The colour of the body in the living animal was observed to be shining dark chocolate colour on the dorsal surface; while it was light chocolate colour on the ventral surface. In the preserved animal dorsal surface presents the dull dark chocolate colour, while the ventral surface shows variation in colour from pale chocolate to ash brown colour. From the neck to the extreme posterior end there is a prominent raised ridge of slight dirty white colour on the midventral surface known as ambulacral surface. This is somewhat wider at the mouth and genital apertures. In two specimens the pharynx is seen protruded through the mouth as a cream or pale yellow frill.

Table 1 gives the measurements of four intact animals from the Girnar hills. These measurements are those of the preserved specimens; but these animals in living state are capable of extending and hence there is apt to be more or less slight variations in these measurements than those recorded here.

TABLE 1

		mm.	mm.	mm.	mm.
1	Length of the body ...	43	50	63	74
2	Breadth of the body ...	4	5	4	5
3	Thickness of the body ...	3	2	2	3
4	Breadth of the head lobe ...	3	4	5	5
5	Breadth of the ambulacral surface ...	1	.75	.75	1.25
6	Position of the mouth from the anterior end ...	22	25	28	36
7	Position of the genital pore from the end ...	29	33	39	48
8	Distance between the mouth and genital pore ...	7	8	11	12

It is seen from the above table that the smallest specimen measured 43 mm. in length, and 4 mm. in breadth whereas the largest was 74 mm. and 5 mm. in length and breadth respectively. Thickness of the body varies from 2 mm. to 3 mm. These include the raised ambulacral surface of the ventral side. The breadth of the head lobe varies from 3 mm. to 5 mm. The breadth of the ambulacral surface varies from 75 mm. to 1.25 mm. The position of the mouth is more or less about half-way from the ventral surface; while that of the genital pore is more or less two-third way along the ventral surface from the anterior end or about one-third way from the posterior end. The genital pore is behind the mouth and the distance between the mouth and the genital pore varies from 7 mm. to 12 mm. All four intact specimens have both the apertures quite visible.

One of these specimens was sent to the Director, Zoological Survey of India, for correct specific identification. Dr. B. S. Chauhan identified it as *Bipalium* prox. *sylvestre* Whitehouse. According to him it shows closer resemblance to *B. sylvestre* than any other described species or genus. As there was only

one specimen available to him he was unable to give any definite specific name to it or to say whether it is a new species.

These specimens are from the first record of the species from Junagadh in Kathiawar.

The author expresses his sincere thanks to Dr. B. N. Chopra and especially to Dr. B. S. Chauhan for their kind help.

BAHAUDDIN COLLEGE,

JUNAGADH,

G. A. KAPADIA

6th May 1947.

Literature cited

1. Whitehouse, R. H. (1914) Land Planarians. Rec. Ind. Mus. Vol. VIII, Pt. VI, pp. 455-464.
2. Whitehouse, R. H. (1918) Indian Land Planarians. Rec. Ind. Mus. Vol. XVI, Pt. 1, pp. 29-40.
3. Kaburaki, T. (1925) Planarians from the Andamans. Rec. Ind. Mus. Vol. XXVII, Pt. II, pp. 2932.

29.—FLOWERING OF BAMBOOS

Our local 'ringal' is *Arundinaria falcata* Nees, and until this year was plentiful in the jungle and commonly transplanted into gardens where it was of great ornamental value. Last year, however, mass flowering of this species took place and I now know of only three or four clumps remaining, which for some reason failed to flower and perhaps half a dozen small plants that had been transplanted during the rains in 1945. I also noticed this species flowering in Simla and in Dehra Dun so that it must have been general throughout its range.

I should be most interested to know what the flowering cycle of this species is? My Mess Mali, who has been in our employ since 1911 tells me that he had never known this ringal to flower till last year. This gives a cycle of at least 35, and probably of 40 years.

LANSDOWNE, U.P.,

7th May 1947.

D. G. LOWNDES

Colonel,

The Royal Garhwal Rifles.